

BIRD BANDING IN NEW ZEALAND

By C. J. R. Robertson

Bird banding in New Zealand was started on a very small scale by a few private individuals, mainly professional workers, and one or two Acclimatisation Societies (Regional game bird propagation and hunting organisations). Several band types, including home made ones, with a variety of band inscriptions were used up until 1951, when the banding of birds was first officially organised by the Ornithological Society of New Zealand (O. S. N. Z.) using the Dominion Museum's address as inscription on its bands.

This enabled interested members of the O.S.N.Z. to join in with the work, and the society was empowered to issue banding permits to approved operators, while distributing the necessary bands free of charge.

In 1957 a new agreement was reached with the Wildlife Branch of the Department of Internal Affairs, and the following two schemes have since been operative:

- (a) The banding of game birds and waterfowl by the Wildlife Branch, using bands carrying the Department's own return address.
- (b) The O.S.N.Z. Banding Scheme, covering all other native and introduced species found in New Zealand and its dependencies.

Interest in banding within the society's membership rapidly increased, until it was practically impossible for the society to carry the financial burden alone, and especially to cope with the increasing recording work on an honorary basis. During 1961 an offer made by Dr. R. A. Falla, Director of the Dominion Museum in Wellington, to take over the Banding Scheme was accepted by the O.S.N.Z. The Scheme was handed over to the Museum early in 1962 and is being run in a similar manner.

There are 98 registered banding operators at present, though not all of these are regularly active, and up until March 1966 a total of 180,000 birds of 129 species have been banded. To date nearly 9% or 16,500 of all banded birds have been recovered with over 14,500 additional (repeat) recoveries recorded.

Originally 11 band sizes were used, but this has been increased to 16, ranging in size from a diameter of 2 mms. to 21 mms. and including several specially designed bands used on Shearwaters (oval) and Penguins (flipper bands).

Four metals are being used: aluminium, aluminium alloy (2.25% magnesium), monel, and stainless steel. The life span of the band depends greatly on its thickness and size in relation to the species of bird banded. Aluminium has been successful on all Passerine species, and up to 10 years on Gannets if the bands were not too loose fitting, but only

5-6 years on Gulls. On Petrels, especially in the burrowing species, a band life span of only 2 years can be expected if aluminium is used. Therefore, monel bands have recently been tried on these species, and little or no wear has been found after 3 years. Monel bands are now being used on most large birds including surface breeding species of the order Procellariiformes, and present results are good. Stainless steel bands have only been used on Penguins and have given excellent results to date.

Concerning colour-bands, celluloid bands have been used in a number of studies, notably on gannets, gulls and small passerines, but due to fading and breakage are only suitable for short term studies. Experiments with reflectorised tape on a metal base has been given 3-4 years use in a study of one of the native *Pallidae*. Thermoplastic bands were used in some studies in the Antarctic and gave fairly good results, but nevertheless, there is a definite need for the development of a satisfactory colour-band for long term use.

Three general banding projects carried out are showing interesting results. Banding of Gannet chicks (*Sula bassana serrator*) has been carried out on selected colonies since 1951 and much information on their migratory habits between New Zealand and Australia has resulted. With a large population of known age birds (up to 16 years old) further studies on breeding habits are being undertaken. Extensive banding of wintering Petrels has been undertaken, though so far only Cape Pigeons (*Daption c. capensis*) are producing significant results. Notable recoveries are those from the South Orkney Islands; Adelie Land, Antarctic; and the central South Atlantic Ocean.

A study of the Little Blue Penguin (*Eudyptula minor novaehollandiae*) was carried out in the Wellington harbour. It was found that while the young disperse (distances of up to 250 miles recorded), once a breeding territory is established, movement almost ceases.

Among other birds under study, the following notes give some indication of the work and results obtained to date. Recent banding of the Southern Royal Albatross (*Diomedea e. epomophora*) has indicated a juvenile migratory movement in similar subtemperate latitudes to South America where recoveries have been noted from the Chilean and Argentinean coasts. White-capped Mollymawks (*Diomedea c. cauta*) banded off our shores have so far produced one Australian and three South African reports. This would indicate that our adult birds tend to move towards South Africa in the early winter months. On the other hand, a large number of Giant Petrels (*Macronectes giganteus*) banded as chicks in the South Orkney's and Macquarie Island have been recovered in our range of waters during the later winter months. A few locally banded adults have been reported here with a banding age of up to 6 years.

A small number of adult Sooty Shearwaters (*Puffinus griseus*) have been banded, and apart from two 5-year-old local recoveries, there are two Japanese and one American report of great significance.

Banding of the Australasian Harrier (*Circus approximans gouldi*) has shown that while adult birds are more or less sedentary, the juveniles may disperse in any direction throughout the country with distances of up to 600 miles recorded.

There has to date been little work done on any birds belonging to the Order Charadriiformes, of which large numbers of indigenous as well as migratory species occur in New Zealand. This lack of work is mainly attributable to trapping difficulties because of large tidal differences on our shores.

Research on the Antarctic Skua (*Stercorarius skua maccormicki*) within the Ross Sea Dependency in the Antarctic has so far only produced local recoveries with no outside reports yet notified.

The three gull species, the Southern Black-backed Gull (*Larus dominicanus*), the Red-billed Gull (*L. novaehollandiae scopulinus*), and the Black-billed Gull (*L. bulleri*) constitute 41% of the birds banded under this scheme and some 50% of the total recoveries are attributable to them. Sight recoveries (numbers on bands read with binoculars) contribute to a large degree to the impressive recovery total of 23% of all Red-billed Gulls banded. General results have tended to confirm overseas findings for the Black-backed Gull who disperse widest in their first year. Red-billed Gulls, however, show a tendency to disperse at random throughout New Zealand during the winter months and cover larger distances than Black-billed Gulls during these seasonal movements.

Caspian Terns (*Hydroprogne caspia*) and White-fronted Terns (*Sterna striata*) have been banded in large numbers for some time while Black-fronted Terns (*Chlidonias hybrida albobstriatus*) have only recently been started. There have been 9 reports of White-fronted Terns from Australia, 8 of which were in their first year, the exception being one in its sixth year. Caspian Terns have been found up to 300 miles from banding localities, while only a very few local reports of Black-fronted Terns are to hand.

The Kea (*Nestor notabilis*), the only New Zealand Parrot being studied at present (840 banded) has shown a mainly sedentary pattern in its mountain habitat with a dispersal of up to 50 miles.

Little work has been done on New Zealand native Passeriformes and studies made have been restricted to introduced birds of this order (Thrushes and Finches) where it was found that they are completely sedentary and do not move regularly more than 15 miles from their banding locality.

All records are maintained at the Dominion Museum, Wellington and Reports on the Scheme's activities, noting banding and recovery data, are published annually.

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